Transformation of the Value-Semantic Sphere of Pathological Players in the Conditions of Rehabilitation

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Abstract: The spread of gambling addiction is one of the serious problems of modern society. A person involved in gambling creates preconditions for inevitable failure**.** Effective rehabilitation involves the reconstruction of the personality and aims to return the addict to a healthy and socially valuable life. The value-semantic sphere serves as one of the factors of psychological adaptation and the purpose of psychological correction of game addicts. The present research aimed to study the peculiarities of the transformation of the value-semantic sphere of pathological players in the context of a rehabilitation program. The research involved 42 pathological players undergoing a rehabilitation program for 6 months. We used methods: "Diagnosis of Interpersonal Relationships" by Leary; "Personality Time Perspective Questionnaire" by Zimbardo; "Meaning-Life Orientations" Leontiev; Stolin's Self-Ratio Questionnaire; "Morphological test of life values" by Sopov and Karpushina and personal data questionnaire. As a result of the study, the connection between the participation in the rehabilitation program and the change of the relationship profile of the pathological players to a more independent one was found. Changes in the time perspective of positive future, an increase of meaningfulness of life, an increase of the level of self-esteem, and a decrease of self-blame were revealed. The change of value from material provision to self-development and acceptance of oneself in the context of rehabilitation was revealed. As a result of the research, it was established that in rehabilitation conditions, the transformation of the value-semantic sphere of pathological players towards more adaptive is possible.

INTRODUCTION

Currently, according to the American Psychiatric Association's DSM-V defines problem gambling as the uncontrollable urge to continue gambling despite negative consequences (social dysfunction, financial problems, mental and physical illness) and classifies it in a category related to psychoactive substances and addictive disorders [1]. Against the background of the development of modern technology and the convergence of digital media and gambling [2,3], the gambling industry is transforming into new forms, contributing to the unimpeded spread and development of more serious problems than offline gaming.

Gambling addiction develops gradually, and it is difficult to determine the beginning of the addiction process due to the absence of any external signs indicating the problem (unlike alcoholism and drug addiction).

Addiction begins when gambling is included in the player's life support scheme, leads to detachment from reality, and dictates behavior. The players' addiction is so intense that it can displace hunger, thirst, sexual needs, suppress and eliminate contradictory motives, and control [4]. As a result, the player cannot only solve personal problems but also stops in his spiritual development. There is a process in which personality traits are sharpened and deformed (up to and including impoverishment) [5]. Gradually the personality is destroyed, the filter that previously did not allow various addictions to pass through is broken. There is a growth of psychosocial disadaptation, depression, physical ill-health - the cost is higher than the financial loss [6].

As addiction develops, the existing hierarchy of motives, needs, and values is replaced, the higher needs and attitudes of the personality are displaced, the circle of interests narrows. Due to the gradual impoverishment of the needs-motivational sphere, there are personal changes: moral and ethical reduction of the person, leveling, and deformation of the system of value orientations. Dependence becomes a form of personal alienation [7,8].

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Taking into account these consequences, effective rehabilitation is necessary, including reconstruction of the personality, formation of motivation to abandon dependence, restructuring of the value and semantic structure of the personality.

In psychology, the value and meaning sphere of the personality is understood as a complex set of norms and beliefs, motivational characteristics, worldview, goals, social attitudes under the influence of the socio-cultural environment in which it enters into social interaction [9]. At the same time, value and value orientations act as regulators of human behavior and the basis for decision-making [9]. As a functional system that forms the meanings and goals of human life and regulates how to achieve them [10], the personal value-mental sphere undergoes certain changes in forming dependency. Its transformation is characterized by reorientation of instrumental values, adaptation to the psychotraumatic situation, and not searching for an exit from it [11].

The present study aimed to investigate the peculiarities of the transformation of the value-semantic sphere of pathological players in the conditions of undergoing a rehabilitation program. For this research, the main hypothesis was put forward: in rehabilitation conditions, the transformation of the value-semantic sphere of pathological players towards a more adaptive one is possible. Since our study focuses on restoring a personality that corresponds to aspects of an adopted person, additional hypotheses were developed, and the following points were studied for a deeper study: interpersonal relations, time perspective, sense-life orientations, self-concept, and value orientations.

Interpersonal relations are a key factor in personal development and formation, a condition for socialization and self-determination. Obviously, with addiction, not only the personal sphere is deformed, but also destructive patterns of interpersonal behavior are formed. Interpersonal relations of persons with a pathological addiction to gambling have their own features and negatively influence the player and his closest environment. As a person becomes immersed in gambling addiction, the real reality, in contrast to the addictive reality, begins to be perceived as negative, moving away from it [12] increasingly. Trying to hide the degree of their gambling, players begin to lie to family, friends to show irresponsibility. They may show aggression attacks and physical violence towards the family members [13,14] and commit crimes [15]. Due to the above, we assumed that rehabilitation conditions in which a special type of environment ("MicroSociety") is

created that promote the creation and development of new adaptation skills to the social environment might favorably influence the reconstruction of interpersonal relations of game addicts. Accordingly, we put forward an additional hypothesis.

Hypothesis 1: There is a link between participation in a rehabilitation program and a change in the relationship profile of pathological gamblers to a more independent one.

Perception of time is one of the fundamental aspects of personality functioning, which serves as a kind of indicator of one's psychological states and influences many areas of life. According to F. Zimbardo and D. Boyd (1999), time perspective can be seen as a permanent feature of a personality, an expression of a personality's own system of meanings, which allows creating a holistic system of coordinates for life [16]. Crisis events, traumatic life situations, experiences of personal failures affect a person's way of life and his orientation in it. The temporal perspective reflects the concentration of people's problems with addictions and can serve as an indicator of their emotional and psychological state. On this basis, we assumed that a rehabilitation program aimed at self-analysis of their feelings, moods, actions, actual needs, detailed elaboration of addiction problems, and cognitive activity formation could positively impact the perception of the past, present, and future by game addicts. Consequently, we put forward another hypothesis.

Hypothesis 2: there is a link between participation in a rehabilitation program and changes in the time perspective of the positive future of pathological gamblers.

According to one of the most famous meaning researchers V. Frankl, the desire for meaning is an innate motivational tendency inherent in human nature. Search for meaning is the main force of human life, the main engine of behavior and personal development [17]. In grasping the meaning of existence, people often experience moments of doubt, helplessness, and anxiety. The absence or disappointment of one's meaning generates a state of stress, can cause an "existential vacuum", the cause of many mental and behavioral disorders [17]. At the same time, awareness of the meaning of life plays a protective role against psychosomatic symptoms, depression, and various kinds of addictions [18]. Unfortunately, any addiction negatively affects a person's awareness of the meaning of life. In view of the above, we assumed that a rehabilitation program aimed at overcoming the system of addiction denial, personality restructuring,

increasing awareness of the meaning of life, and the meaningful regulation of the life path could be effective in developing the motivation and desire of game addicts to start living a conscious, healthy life. Accordingly, we allowed one more hypothesis.

Hypothesis 3: There is a relationship between participation in a rehabilitation program and an increase in pathological gamblers' level of life meaningfulness.

According to the World Health Organization, the most important components of health and well-being are the absence of disease and the presence of a positive self-perception [19]. Self-perception determines the process of personal self-development, induces a person to realize their own value, creates prospects for further self-improvement, influences the formation and achievement of goals, and ensures the unity of personality [20,21]. The negative perception of oneself as a whole disrupts inner harmony and forms an indifferent attitude toward oneself, and one's loved ones, one's present and future. Gambling addicts' self-stigmatization can contribute to hiding their disease, reluctance to change something, and refusal of treatment, which is a serious therapeutic barrier [22-24]. On this basis, we hypothesized that a rehabilitation program aimed at promoting awareness and internal acceptance of the value of oneself, working through old stereotypes, and forming a harmonious and self-actualizing personality could have a beneficial effect on the self-esteem of gambling addicts. Therefore, we put forward an additional hypothesis.

Hypothesis 4: there is a connection between participation in a rehabilitation program and an increase in self-esteem and a decrease in the level of self-blame of pathological players.

The system of value orientations determines the "vector" of personal development - a person's life perspective stimulates the preference of a person to move in a certain direction, determining the thoughts, actions, and direction of behavior [25]. In the absence of clear priorities, the loss of existential values (life, love, creativity, dignity, etc.) and moral and ethical attitudes create the so-called value vacuum, which manifests itself in disappointment in life, indifference, alienation from normal social interactions. In view of the above, we assumed that a rehabilitation program based on spiritual principles of humanity as a whole could promote revision and change of the personal value system of addicts, which was formed in the process of addiction development. Accordingly, we put forward an additional hypothesis.

Hypothesis 5: there is a connection between participation in a rehabilitation program and a change in the value of pathological gamblers from material provision to self-development and self-acceptance.

METHOD

Participants

Forty-two pathological players (70% male and 30% female) aged 20-29 years (mean age 24.6 years) participated in the study. Pathological players were recruited among individuals undergoing a comprehensive psychological rehabilitation program at the rehabilitation center "XXX" in Odintsovo, Moscow Region, and Omsk for 6 months. Criteria for inclusion of participants in the study: 1) voluntary participation; 2) written consent to participate in the study; 3) no data for non-inclusion or exclusion from the study; 4) age 18 years or older; 5) any gender.

Instruments

a. *Socio-demographic characteristics.* An author's questionnaire was used to establish socio-demographic characteristics. The following characteristics of the participants were identified with the help of the questionnaire: gender, age, level of education, the sphere of activity, the financial situation. The questionnaire was offered to the participants to fill in before the study.

b. *"Interpersonal Relationship Diagnostic (IDD) by T. Leary* in modification of the Russian scientist L. N. Sobchik allows us to conclude the expressed type of attitude to others, the degree of adaptation of behavior - the degree of compliance/ mismatch between the goals and results achieved in the process of activity [26]. In our research, this technique was used to diagnose the system of interpersonal relations of participants, for revealing of connection between participation in the rehabilitation program and change of a profile of relations.

c. *"The Zimbardo Personality Time Perspective Questionnaire (ZPTI),* as adapted by Russian scientists A. Syrtsova, E. T. Sokolova, and O. V. Mitina, is designed to measure the assessment of one's own time continuum and tendency to focus on one of the time intervals (past, present,

future) [27]. Our study used to reveal the connection between participation in the rehabilitation program and changes in the time perspective of the participants.

d.   *"Meaning-Life Orientations" (SZO)* by Russian scientist D. A. Leontiev allows getting information about the subject's experience of the meaningfulness of their own life as an integral indicator of adaptation and psychological well-being [28]. "PLE" is an adapted version of the Purpose-in-Life Test (PIL) of J. Crumbo and L. Maholik, developed by the authors based on the theory of search for meaning and logotherapy of V. Frankl [17]. In our study, this technique was used to identify the connection between participation in the rehabilitation program and changes in the overall level of meaningfulness of the participants' life perspectives.

e.   *"Self-Relationship Questionnaire"* by Russian scientists Stolin V.V. and Panteleev S.R. was used to study various aspects of participants' self-esteem and to identify the connection between participation in the rehabilitation program and changes in self-esteem level. A stable and positive attitude towards oneself has protective capabilities, plays an adaptive role, facilitates further activity, reduces anxiety levels, and promotes continuous personal self-improvement [29].

f.   *"Morphological test of life values" (MTLS),* developed by Russian scientists V.F. Sopov and L.V. Karpushina, is aimed at studying a person's individual system of values to understand better the meaning of his actions or deeds [30]. Any transformation in an integral hierarchical system is directly connected with changes of a personality in general, which is an important indicator in diagnostic and therapeutic work with patients with various addictions. We used this technique to study the participants' value orientation and identify the connection between participation in the rehabilitation program and a change in values.

Procedure

Within 6 months, the primary psychodiagnostics study (T1 - before the complex psychological rehabilitation) and the control study (T2 - after the rehabilitation program) by the same methods were conducted. This study was conducted following the latest version of the Declaration of Helsinki. Participants were informed of the nature of the study, as well as the anonymity and confidentiality. Participants were informed that their personal data would not be used or disclosed anywhere. We coded each questionnaire, and personal information was deleted. A sample informed consent is attached as an appendix to the article (Appendix1).

Test forms were given to participants in printed form with verbal instructions on how to complete them. Over three days, at their leisure from therapy, participants completed the techniques, returned the forms, or photographed their responses and e-mailed them. They received written feedback on the test results upon request. Participants had the right to withdraw from the study at any time. The study was conducted using scientifically valid, reliable, validated, and adapted psychodiagnostics methods.

Data Analysis

Excel spreadsheet software was used to organize the data. Various mathematical and statistical analysis methods were used to interpret the empirical data using "IBM SPSS Statistics 24.0" software. Primary descriptive statistics were calculated for all variables, and bivariate correlations were performed using the correlation coefficient. The significance of the multiple correlation coefficient was checked based on Fisher's F-criterion. The nonparametric Mann-Whitney U-criterion was used to assess differences between two independent samples.

RESULTS

Socio-Demographic Characteristics

At the beginning of the study, we conducted a socio-demographic analysis of participants in the rehabilitation program. Comparison of the sample revealed 70% males and 30% females. The average age of the participants was 24.6 years, with an age range of 20 to 29 years. Most participants (55%) were in a relationship but not married (32%). Thirteen percent of participants were in a formal relationship. The participants' level of education is heterogeneous; they are engaged in various spheres of professional activity and have an average level of material well-being (63%).

Features of the Relationship Profile

Table **1** shows the average indicators of the profile of real and ideal "I", obtained by the method "Diagnosis

Table 1:   **Average Indices of the Profile of the Real and Ideal Self of T. Leary's**

The octants	Self-real		p-level	Self-ideal		p-level
	T1	T2		T1	T2	
Authoritarian	7	8.09	0.0001*	9.8	8.09	0.0001*
Egoistic	8.5	7.1	0.00056*	9.3	6.3	0.0001*
Aggressive	8.2	6.3	0.0001*	7.09	6.2	0.0096*
Suspicious	9.5	5.5	0.0001*	5.8	5.4	0.16758
Subordinate	8.7	5.6	0.0001*	5.6	5.5	0.47152
Dependent	9.9	6.0	0.0001*	6.1	6.0	0.96012
Friendly	6.4	8.2	0.0001*	8.7	8.4	0.2187
Altruistic	5.8	6.5	0.0198*	7.7	7.3	0.8186

Note: *- differences are statistically significant ($p \leq 0.05$).

of Interpersonal Relationships" (DIR) of T. Leary. Significance levels of connections (p-level), found using Mann-Whitney U-test, are also described.

Analysis of the results of the comparative profile of the real self at the first (T1) and second (T2) stage of the study revealed statistically significant differences ($p \leq 0.05$) on all scales. After completing the rehabilitation program (T2), there were significant changes due to a decrease in the indicators of dependent, suspicious, submissive, aggressive, and egoistic types of relationships and an increase in the indicators of friendly, authoritarian, and altruistic types. Leadership and self-confidence attitudes now predominate. The profile of the participants' real selves looks more balanced.

The profile of the ideal self after the rehabilitation program (T2) is less transformed than the profile of the real self. Statistically significant differences ($p \leq 0.05$) in the egoistic type of relationship ($p = 0.0001$), in the authoritarian ($p = 0.0001$) and aggressive type ($p=0.0096$) were found. No statistically significant differences ($p \leq 0.05$) were found between the mean values of the other relationship types. After undergoing the rehabilitation program, the profile of the ideal self became almost identical to the profile of the real self.

In accordance with Hypothesis 1, Table **1** demonstrates a change in the relationship profile of pathological players to a more independent one under the conditions of the rehabilitation program.

Time Perspective Indicators

Table **2** demonstrates a comparative analysis of participants' mean measures of temporal perspective

on the F. Zimbardo (ZPTI). Results of statistical analysis before (T1) and after (T2) the rehabilitation program indicate statistically significant differences ($p \leq 0.05$) on all scales. There was a change in the participants' assessment of their time perspective. After the rehabilitation program (T2), the temporal perspective of the positive past prevails over the negative past. The participants became more oriented towards the future. A decrease in the hedonistic and fatalistic presence is observed.

According to Hypothesis 2, Table **2** demonstrates changes in the temporal perspective of the positive future of pathological players under rehabilitation conditions.

Table 2:   **Mean Values of the Scales of the Zimbardo Time Perspective Questionnaire (ZPTI)**

The future perspectives	T1	T2	p-level
Negative past	4.2	2.9	0.0001*
Hedonic present	4.6	3.5	0.0001*
Future	2.4	3.7	0.0001*
Positive past	3.3	3.9	0.0308*
Fatalistic present	3.8	2.4	0.0001*

Note: *- differences are statistically significant ($p \leq 0.05$).

Level of Life Meaningfulness

Table **3** shows the statistical analysis results according to D. A. Leontiev's Meaningful Life Orientations (SZO) method by D. A. Leontiev.

The comparative analysis of the results after the rehabilitation program (T2) with the results at the first stage of the research (T1) demonstrate positive

dynamics on all scales. Mann-Whitney U-criterion confirmed statistically significant differences (p ≤ 0.05) after undergoing rehabilitation on the scale of general meaningfulness of life (p=0.0001), as well as on other scales. An increase in the index of general meaningfulness of life after the rehabilitation program indicates participants' perception of their life process as more interesting, rich, and meaningful.

In accordance with Hypothesis 3, Table **3** shows an increase in the level of life meaningfulness of pathological players under rehabilitation conditions, which may subsequently improve their overall quality of life.

Table 3: Average Values of the Scales of D. Leontiev's SJO Questionnaire

The scales	T1	T2	p-level
Goals in life	19.1	29.6	0.0001*
Process of life	21.2	30	0.0001*
Result of life	15.8	24.3	0.0001*
Locus of control -Self	14.3	22.3	0.0001*
Locus of control - Life	18.2	27.8	0.0001*
Life meaning	64.1	100.1	0.0001*

Note: *- differences are statistically significant (p≤0.05).

Self-Relationship Indicators

Table **4** shows the average values according to the "Self-perception questionnaire" (Stolina V.V.,

Panteleeva S.R.). The results obtained from the methodology allowed us to study the expression of various aspects of self-esteem in undergoing a rehabilitation program.

Comparative analysis of the results before (T1) and after (T2) the rehabilitation program revealed statistically significant changes (p ≤ 0.05) that occurred to the participants during the rehabilitation program. An important change was a decrease in the level of self-blame and internal conflict of the participants. Analysis of the Mann-Whitney U-test results indicates a statistically significant difference (p ≤ 0.05) before and after rehabilitation on the self-blaming scale (p=0.0001).

In accordance with Hypothesis 4, Table **4** demonstrates an increase in self-esteem and a decrease in self-blaming of pathological players undergoing rehabilitation.

Value Orientations

Table **5** demonstrates statistical analysis results according to the method "Morphological test of life values" (MTVC) by V.F. Sopov, L.V. Karpushina.

The comparative analysis of values after the rehabilitation program (T2) with the results at the first stage of the study (T1) demonstrates changes in the participants' personal scale. The greatest shifts took place in relation to the values of spiritual satisfaction, self-development, social contacts, and achievements. The profile of participants' values shifted significantly to

Table 4: Average Values of the Scales Self-Perception Questionnaire by Stolin V.V., Panteleev S.R

Scale	T 1	T 2	p-level
S – global self- relation	50.2	58.7	0.0438*
Self-esteem (I)	39.7	55.1	0.0001*
Self-sympathy (II)	41.6	51.5	0.0438*
The expected ratio from others (III)	29.7	47.2	0.0001*
Self-interest (IV)	39.6	50.5	0.0244*
Self- -confidence (1)	37.1	55.9	0.0001*
The ratio of the other (2)	25.9	47.9	0.0001*
Self-acceptance (3)	42.5	54.2	0.00652*
Self-sequence (4)	45.6	52.9	0.02642*
Self-incrimination (5)	74.1	49.2	0.0001*
Self-interest (6)	42.2	54.2	0.00038*
Self-understanding (7)	38.7	52.3	0.0128*

Note: *- differences are statistically significant (p≤0.05).

Table 5:   Distribution of Average Values on the Scales of Values and Life Spheres

Values	T1	T2	p-level	Life spheres	T1	T2	p-level
Self-development	5.21	6.57	0.00014*	Professional life	3.57	5.61	0.0001*
Spiritual satisfaction	5.38	6.88	0.0001*	Training and education	4.14	4.4	0.5287
Creativity	4.76	5.54	0.00782*	Family life	6.78	7.02	0.40654
Social contacts	3.45	5.92	0.0001*	Social life	4.02	5.35	0.01352*
Own prestige	6.42	6.81	0.03156*	Hobbies	7.3	5.02	0.0001*
Achievements	5.26	6.07	0.03318*	Physical activity	6.83	6.76	0.74896
Material position	7.04	6.21	0.01878*				
Preservation individuality	6.09	6.78	0.03*				

Note: *- differences are statistically significant (p≤0.05).

the more adaptive side. The value of material status decreased slightly but became less important to the participants. Statistically significant differences (p ≤ 0.05) in all value scales should be noted.

Analysis of the results on the scale of life spheres demonstrates that after completing the program (T2), the sphere of hobbies gave way to professional and social life spheres in terms of value. No statistically significant differences (p ≤ 0.05) were found between the mean values of life spheres of family life (p=0.40654), physical activity (p=0.74896), learning, and education (p=0.5287). Presumably, the absence of statistically significant differences on the scale of learning, family life, and physical activity can be attributed to the fact that participants are at the age of starting a family, getting an education, and appreciating physical activity. This can be attributed to the most central values of this group of participants.

Consistent with Hypothesis 5, Table **5** demonstrates a shift in the value of pathological players from material support to self-development and acceptance of self in the rehabilitation setting.

DISCUSSION

The main objective of the present study was to establish the existence of a relationship between participation in a rehabilitation program and the possible transformation of the value and meaning sphere of pathological players toward a more adaptive one. In the present study, for the first time, an attempt was made to cover and compare as much as possible the characteristics of the value and meaning sphere of pathological players before and after rehabilitation.

According to the peculiarities of addiction manifestation in a person, including gambling, addictive personality is characterized by: the presence of contradictions, internal conflicts, the prevalence of conformist settings, external sociality (in combination with the fear of persistent emotional contacts), refusal of responsibility [12,31,32]. Furthermore, gambling addiction can adversely affect interpersonal relationships and lead to problems in relationships [5]. Behavioral disorders are the main feature of gamblers [33]; they are characterized by difficulties in understanding and evaluating the behavior of surrounding people, inability to choose the most productive way of interacting with others, difficulties in avoiding traumatic situations [5]. Our results confirm these tendencies and also demonstrate that before the rehabilitation program (Table **1** - T1), the participants were characterized by the tendency to subordination, dissatisfaction with themselves as the subject of communication (significant discrepancies between the real and ideal "I").

During the research, we have revealed that the rehabilitation program had a qualitative influence on the interpersonal relations of the participants. After completing the program (Table **1** - T2), participants demonstrated a desire for trusting relationships, the ability to manage themselves, a leadership position, and self-confidence. They changed from a tendency toward subordination to a more independent relationship profile (in line with the study's first hypothesis). The profile of the real self at this stage of the work approached the profile of the ideal self, which is a prerequisite for increasing personal potential and indicates the formation of a more harmonious "I-concept". The rehabilitation process helped normalize the communicative structure and effectively changed the personal evaluation in the context of interpersonal relations. Our results confirm the relevance and efficiency of correction in treating problems with gambling presented in the previous research [34-36].

According to early studies of the temporal perspectives of adults and adolescent problem gamblers, the players' orientation towards the present (prevalence of hedonistic present), pessimistic coloring of previous experience (negative past), belief in chance, and the power of fate (fatalistic present), perception of hopelessness and meaninglessness of the future (pessimistic view of the future) were found [12,37-40]. The players' present is directly related to the interest in excitement and address an-alienation from the game. The present orientation is a behavioral tool that contributes to maintaining the addiction to the game [41]. The belief in luck and random success [42] disconnects players from reality, and they are insensitive to the future consequences of their behavior [43] and unable to consider a long period in the future [44]. Negative coloring of previous experiences and pessimistic orientation towards the future precedes the involvement in different types of risky behavior [45,46], form a sense of hopelessness, a threat to well-being [12], and an inability to influence a frustrating life situation. The characteristics of pathological players before undergoing a rehabilitation program (Table **2** - T1) are consistent with these judgments.

After the rehabilitation program (Table **2** - T2), a positive past temporal perspective and a transition from the perception of a fatal future to a positive view of the participants' future were revealed. Future-oriented people demonstrate active goal-setting, effective regulation of their behavior [47], and confidence in their own abilities to change their lives. In addition, the rehabilitation program contributed to the participants' tendency to overcome guilt for their addiction, to form greater responsibility for their lives. The results allow us to evaluate the participants' real changes and conclude (in accordance with the second hypothesis of the study) that there is a connection between participation in the rehabilitation program and changes in the time perspective of a positive future. Other studies have also shown the effectiveness of play behavior correction [48,49].

Addiction affects the perception of life in general, focusing attention and striving on the object of addiction rather than other aspects of life. Gambling harm can negatively impact the health and well-being of gambling addicts in many ways (legal, financial, emotional problems, etc.). According to [50], an increase in gambling problems leads to a progressive decrease in the subjective well-being of gambling addicts. Studies [51-53] have shown that pathological gamblers are characterized by a significantly lower quality of life. Other studies have found an association between pathological gambling and suicidality, indicating more clearly a serious lack of well-being in individuals with gambling problems [54,55]. Most pathological gamblers are dissatisfied with the lived part of life, life in the present, and self-actualization. They are characterized by the state of uncertainty of life perspective choice. This suggests the presence of an existential crisis inherent in those with gambling addiction problems [12]. Such statements correlate with the results obtained with the other methods of our study and the result of the low score on the "meaningfulness of life" scale (Table **3** - T1).

As hypothesized, the therapeutic environment contributed to a tendency for participants to perceive their life process as emotionally rich and meaningful and derive satisfaction from the life process (Table **3** - T2). On the whole, rehabilitation helped develop participants' ability to understand themselves and others better, assess their own goals and the results of their actions adequately, plan for the future, and appreciate what they have. This correlates with the results of other methods in our study and indicates that the rehabilitation program helped increase the level of meaningfulness of life (according to the third hypothesis of the study). According to [56], quality of life indicators qualitatively and quantitatively reflect the effectiveness of therapeutic measures. Our results indirectly correlate with previous studies of pathological gambling treatment, which demonstrate improvements in depression, anxiety, and psychosocial functioning of gambling addicts [57,58].

The tendency to excessive gambling as a self-destructive behavior affects a person's global attitude toward themselves [59]. Past studies have shown that pathological gamblers are characterized by an undifferentiated self, low self-esteem, auto-sympathy, reduced interest in themselves and their inner world, and high levels of self-blame [17,60,61]. A high degree of self-loathing and the perception of others' attitudes toward themselves negatively (social stigma) undermine the self-esteem of persons with gambling addiction problems. The resulting self-stigma affects how stigmatized people perceive themselves [62]. In addition, gambling addicts are characterized by doubts about their ability to command respect from others, experiencing feelings of guilt [12]. Serious internal problems exacerbate addictive behavior, leading to difficulties in interpersonal relationships, hiding the disease, or refusing addiction treatment [63,64]. The results of our study correlate with these statements (Table **4** - T1).

Rehabilitation helped reduce the level of inner conflict and self-blaming of participants for addiction, form a more harmonious inner state of the participants, accept themselves, and improve relations with themselves and others (Table **4** - T2). From the point of view of [65], a person with a high level of self-confidence possesses self-confidence and believes that he/she is able to change for the better. Furthermore, a positive attitude towards one's abilities and strength of self creates confidence in the future [12]. This correlates with the results of the other methods of our study and confirms the existence of a link between participation in the rehabilitation program and an increase in self-esteem and a decrease in self-blame (according to the fourth hypothesis of the study). These changes create conditions for personal development, a basis for a more stable and adaptive perception of oneself.

The system of value orientations of gambling addicts has not been studied sufficiently. However, according to the results of several studies, the specificity of the value hierarchy of gamblers was established, characterized by the prevalence of "egoistic" values and orientation on specific life values. Some of which take the form of declared intentions, the dominance of asocial motives of behavior, masked by socially acceptable values [66,67]. The most pronounced values are those directly related to the implementation of the gaming process - material, as well as "narrow personal" values aimed at achieving pleasure [67], which is associated with the prevalence of hedonistic orientation in the personality structure of pathological players. In addition, gaming addicts can view gambling as a way to realize their ambitions [68], and material well-being becomes a symbol of personal success, a sign of social status, power, and a feeling of superiority over others [69-71]. This suggests the presence of some ambition in pathological players and a certain level of ambition. Our results (Table **5** - T1) correlate with these judgments and the results of the other methods in our study. However, the prevalence of the value of family life and physical activity in our study participants is not connected with the idea of game addiction. These results may reflect participants' general idea of social values and maybe declarative. In particular, the orientation toward material values that are realized in the sphere of family life may indicate the value of the family as a factor in solving material problems (e.g., paying debts).

As expected, the therapeutic environment contributed to a shift in focus to participants' own commitments, a desire for self-improvement, and inner satisfaction from the work they love (Table **5** - T2). The need for social contact increased. Participants changed their outlook on life and spiritual values. The value of the material situation decreased insignificantly but ceased to be the leading one. The results of our study correlate with the positive dynamics of the psychotherapeutic work, including the elaboration of the patients' attitude toward money as a symbolic standard of various aspects of their self-esteem [72]. The presence of qualitative changes demonstrates the connection between participation in the rehabilitation program and the change of value from material support to self-development and self-acceptance (in accordance with the fifth hypothesis of the study).

LIMITATIONS OF THE STUDY AND RECOMMENDATIONS

Although we achieved the goals of our study, several limitations should be noted—first, the sample size. Future studies should consider repeating these analyses for a larger sample. Second, there was a lack of equal numbers of women and men. The composition of participants was skewed toward males compared to females (70% of male participants). The small number of pathological female players in this study limited the possibility of separate analyses that could reveal gender differences. Third, the study was limited by the duration of the rehabilitation program. In the current study, post-treatment follow-up of participants was not conducted. Given this, further monitoring of the dynamics of the value and meaning sphere of participants who successfully completed the rehabilitation program would be useful to understand better the transformation of the value and meaning sphere of pathological players. In addition, the study did not take into account the socio-demographic characteristics of the participants, which determine the direction of the rehabilitation processes and the therapeutic effect.

Despite its limitations, the present study has practical implications. Based on the thoroughly examined limitations of our study, several practical recommendations could be formulated for further research.

It is important to monitor and be attentive to the socio-demographic characteristics of participants that may underlie developmental rehabilitative programs and, consequently, the achievement of therapeutic effects in the time interval. The next recommendation is

that pathological players' value and semantic sphere should have been compared before and after rehabilitation. In this connection, it is important to understand what real personality problems accompany and manifest themselves in the sphere of personality: internal conflict, the experience of loss, decrease in self-esteem, high level of self-blame, or sociophobia. The received empirical data can help to build effective treatment and rehabilitation measures and develop preventive measures of gambling addiction.

CONCLUSIONS

The present study emphasizes the importance of reconstructing the value-semantic sphere of people with pathological gambling addiction in the context of undergoing a rehabilitation program.

During our study, we found that the rehabilitation process is able to normalize the communicative structure of pathological gamblers, contributing to the creation of a more harmonious "self-concept". Positive dynamics towards future achievements and goals, acceptance of the passed stage of life, choice, construction of new life and time perspectives, and rethinking of life reference points are observed. The rehabilitation program promoted the increase of participants' life meaningfulness, forming the core that gives sense to life, perception of life as more integral and meaningful. Consequently, in the course of rehabilitation, the participants moved on to the phase of realization of the found meanings. Besides, during rehabilitation, participants formed a more positive perception of themselves and a more harmonious internal state. For the participants of this study, the values of self-development and self-acceptance became more important. In general, the study results primarily indicate that going through a rehabilitation program promotes a tendency toward social adaptation and reintegration into society, toward changes in the value-semantic sphere, and consequently, toward changes in the personality as a whole.

It is necessary to consider that these results are a consequence of living in a rehabilitation center with a rather isolated environment from society and strict internal regulations. Despite obvious changes and positive dynamics, there is always a potential risk of relapse after patients leave the walls of the rehabilitation center. And overly high measures of self-confidence and self-satisfaction may indicate overcompensation by participants for years of self-disrespect. Thus, this study cannot be called definitive. Further research in this area should be conducted in order to increase the effectiveness of therapeutic programs.

ACKNOWLEDGEMENTS

APPENDIX 1

Participant code:_____

Informed consent

for participation in the study

The research group of the Faculty of Psychology of St. Petersburg State University invites you to take part in a psychological study, which aims to study ... VALUES AND THOUGHTFUL SPHERE OF PATOLOGIC PLAYERS IN THE CONDITIONS OF REHABILITATION TRAINING

Before you decide to participate in this study, we would like to give you information about the study, what to expect, and the possible risks.

Voluntariness of participation.

1.   Your participation in this study is completely voluntary.

2.   You can decide not to participate now or refuse to continue participating at any stage of the study without any negative consequences.

Anonymity.

All results will only be reported in the total array, not individually. All data collected during the study will only be available to the research team.

Research Procedure.

You will be asked to answer a series of questions. By the research results, it is planned to prepare a scientific article in a highly-rated publication.

Possible inconveniences.

Some of the interview questions may involve personal and/or emotionally difficult topics and professional competence problems. Remember that you can withdraw from the study at any stage.

There are no emergencies involved in this study, but you will be provided with professional psychological assistance should one arise.

Benefits.

Participation in the study does not imply receiving monetary or material compensation or any other direct benefit by the respondent. However, the information obtained in this study may benefit you and others in the future.

EVIDENCE OF INFORMED CONSENT TO PARTICIPATE IN THE STUDY

I have explained the informed consent form suggested above to the respondent, and I have answered all of the respondent's questions about participation in the study. His or her decision to participate in the study is not forced by anyone but is informed and voluntary, as indicated by the consent obtained.

Name and signature of the interviewer

Date: "_____"_____ 2021

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